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ABSTRACT

The rapid growth in the number of students taking classes via correspondence, video or television delivery in Washington state technical and community colleges during the last decade was largely due to the expansion of telecourse offerings and the recent growth of online (Internet-based) and interactive videoconferencing courses. In fall 1994, 1,926 Washington two-year college students (FTE) were enrolled in distance education courses; in 1998, the FTE enrollment rose to 3,011. About 80% of distance learning students also take classes that require attendance at the originating site. But the 20% of distance-learning-only students represent a fast growing "new wave" of college students. These students, taking classes at a distance because of full-time work, family obligations, or other life circumstances that preclude regular attendance in scheduled classes, will likely increase at a faster rate than other distance learning students. Highlighted statistics in this report include: (1) females make up 65% of distance education students; (2) the typical online student is between 26 and 27 years of age, compared with 23 for other distance learning courses; and (3) it is forecasted that, by fall 2003, Washington two-year colleges will enroll 7,700 distance learning students (FTE). Appended in the report is a table of Distance Learning FTEs and Students by College. (VWC)

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Research Report No. 99-3

Washington State Board for Community and Technical Colleges; Education Division

DISTANCE LEARNING: THE NEW WAVE OF STUDENTS

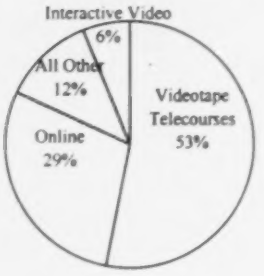
July 1999 – Revised September 1999

This is a report on the most rapidly growing type of course offering in Washington community and technical colleges. A decade ago, 3,000 students a year took distance learning courses in Washington community and technical colleges. They took classes via correspondence, video or television, delivery approaches used throughout higher education for many decades. In 1998-99 more than 26,000 community and technical college students took distance learning courses. That rapid growth was largely due to the gradual expansion of telecourse offerings and the recent rapid growth of online (Internet-based) and interactive videoconferencing courses.

Key Findings:

- About 80 percent of distance learning students also take classes that require attendance at the originating site.
- Some 20 percent of distance learning students who take classes only at a distance represent a fast growing "new wave" of college students. These students taking classes at a distance because of full-time work, family obligations or other life circumstances that preclude regular attendance in scheduled classes will likely increase at a faster rate than other distance learning students.

Distance Learning Mix
1998-99 FTEs
26,058 Students
4,025 FTE



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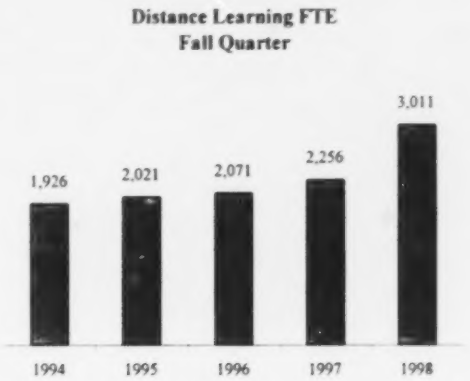
- Distance learning serves a substantial share of enrollment growth. The 26,058 students for 4,025 FTE represent just three percent of the total enrollment. The growth from 19,228 students and 2,878 FTE in 1997-98, however, represents more than a quarter (26 percent) of the enrollment growth. The role of distance learning will become increasingly important in meeting the accelerating enrollment growth expected as the baby boom echo generation reaches college age.

- Particularly fast growing is the online portion of distance learning. In fall 1998, there were 636 FTEs. By the spring quarter of 1999 the number had grown to 1,391 FTEs, a 119 percent fall to spring growth rate.

What is the Role of Distance Learning for the Colleges?

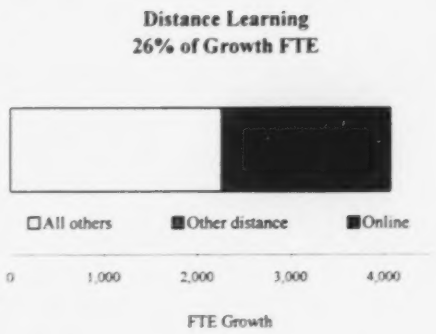
Though classroom and workshop-based classes will likely remain the dominant form of instruction, a growing number of students, faculty, and institutions are engaging in distance learning. Distance learning is "an organized educational process that separates, in time or place, the student and instructor and includes courses offered by computer transmission, television, electronic conferencing, videocassettes or discs, or correspondence" (U.S. Department of Education). In other words, it is an educational experience, typically technology-based, which does not require substantial student attendance at the originating site.

Many of today's community and technical college students in Washington state have needs far different from the traditional college-age student. While the traditional student often seeks an on-campus experience away from home, many students today demand "just-in-time" training to meet their varying needs. With a typical student age of 28 it is not surprising to find that on top of their class-work, many students balance a full-time job (28 percent of students), a family with children (28 percent), or both. Distance learning provides a flexible alternative for these students with demanding work and family schedules.



Both the number of distance learning students and student FTEs are growing rapidly. A decade ago, colleges served 400 FTEs via distance learning. FTEs have grown ten times over in that decade with more than a quarter of that growth in just the past year.

The fast growing online portion of distance learning stood at 636 FTEs in fall 1998. By the spring quarter of 1999 the number had grown to 1,391 FTEs, a 119 percent fall to spring growth rate.



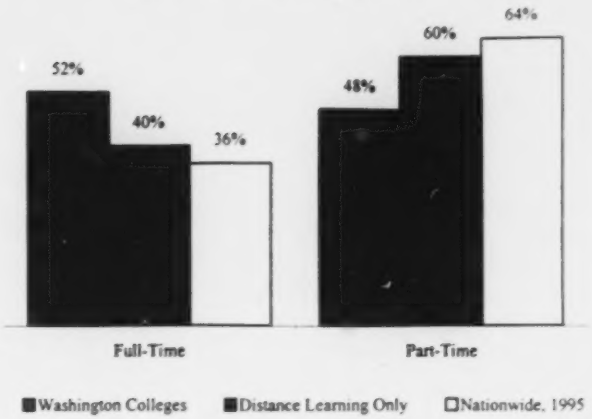
Today, distance learning represents three percent of total FTE, about eighty percent in state-supported courses. Due to its fast growth rate, distance learning accounts for a disproportionate share of total FTE growth. Of the 4,400 increase in FTEs in community and technical

college enrollment between 1997-98 and 1998-99, 26 percent was due to increased enrollment in distance learning courses. Almost half of the distance learning growth came from online courses, which were 10 percent of total FTE growth.

Most students taking distance learning classes also enroll in classes taught on-campus. For these students distance learning classes appear to provide a flexible means of taking a full course load. But those who enroll only in distance learning courses are predominately part-time students. Since the budget cuts of the early 1980's Washington community and technical colleges have decreased their level of service to part-time students. While two-year colleges nationwide enroll predominately part-time students (64 percent), Washington colleges enroll predominately full-time students (52 percent).

Distance learning classes appear to be a means by which colleges have increased services to part-time students.

Washington Community and Technical Colleges versus Two-Year Colleges Nationwide



Who Takes Distance Learning Classes?

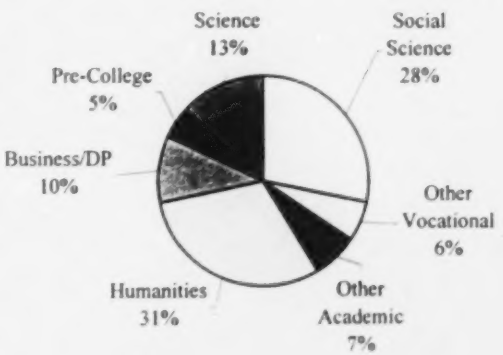
Today, colleges advertise their distance learning instruction the same as all other classes. For that reason, distance learning students tend to be full-time and share many similarities with other full-time students. Compared to the average student, full-and part-time combined, distance learning students are more likely to be working (especially full-time), younger, degree oriented, female and single parents.

The current offerings are mostly academic courses, with over 80 percent of FTE enrolled in academic programs. A substantial effort is currently underway to expand vocational distance learning courses beyond the business and information technology courses that are already offered.

Distance Learning Versus All Students
Fall 1998

	Distance Education Students	All Students
Female	65%	57%
Students of Color	17%	25%
Full-Time	69%	52%
Disabled	4%	5%
Worked Part-Time	30%	27%
Worked Full-Time	31%	28%
Full-Time Homemaker	6%	9%
Planning Two-Year Degree	47%	34%
Planning to Enroll 1 or 2 Quarters Only	9%	12%
Under the Age of 30	65%	57%
Transfer Goal	63%	32%
Single Parent	16%	10%

Distance Learning FTE by Subject Area

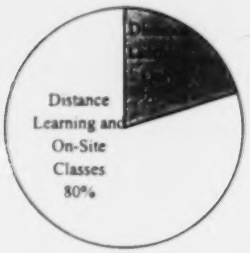


"Distance learning only" students: The current distance learning offerings are advertised in the same manner as all other classes. Thus, most distance students take a mix of distance and on-site classes. Still there is a significant new wave of students who enroll predominately at a distance. Over the past year 5,000 students, or 20 percent of all distance learning students, enrolled exclusively or predominately at a distance. What is this new wave of students like?

"Distance learning only" students are those who benefit from significant time flexibility. Sixty-three percent of these students either work full-time or have children at home. Most of these students enrolled part-time. The majority of those who take only distance learning classes (57 percent) are experienced college-goers. Some 22 percent had completed a degree or certificate before enrolling in their distance learning class while 35 percent had taken at least some college classes at another institutions. That prior-education pattern contrasts sharply with all other students. Only a little over a third of all students had been to college before first enrolling.

Most distance only students enroll every now and then; only one-third enroll several quarters in a row. Despite their busy lives, many of these students are planning to complete at least a year of study and 26 percent plan to complete a degree. On the other hand, an equal number of "distance learning only" students are life-long learners planning to take one or two classes only. A majority of students (54 percent) have transferring as their goal.

Types of Distance Learning Students

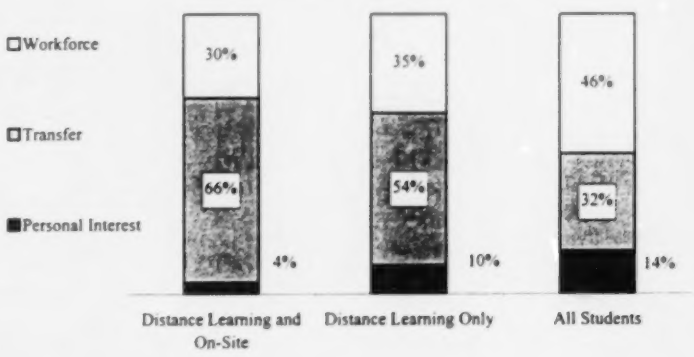


Erin, A Distance Learning Only Student

Erin is a 29-year-old office administrator working for a small manufacturing firm in a community of 15,000 people, about a two-hour drive from the closest community college. She is taking an Online political science class and a history class via correspondence. She would love to be able to take more than two classes, but it is already more than she can handle on top of her full-time job. She is grateful for the opportunity to take classes at a distance since without this option, it is unlikely she would be able to complete her Associate Degree.

Students taking distance learning and on-site classes: Students taking a mix of distance learning and on-site classes are young adult students (median age of 24). By definition, given that they are taking two or more courses, they are full-time students (82 percent). Two-thirds plan to transfer to a four-year institution and many plan to earn an associate degree (42 percent). It appears that these students take distance learning classes because they provide the flexibility needed to meet their goal in a timely manner. These younger students may also find an inherent appeal in Internet-based classes.

Students' Reason for Enrolling



Types of Distance Learning Courses?

All types of distance learning courses -- video telecourses, online, interactive video and correspondence -- classes are growing. The double-and triple-digit FTE growth rates for distance learning classes stand out compared to an overall FTE growth of 1.9 percent for courses in general. About 5 percent of distance learning students take more than one type of distance learning class. The most common mix is telecourses combined with online courses.

Fall Distance Learning FTEs

	1994	1995	1996	1997	1998 (est)	Percentage Growth
Video-based Telecourses	1,384	1,513	1,476	1,491	1,700	14%
Online	7	23	50	257	636	147%
Interactive Video	17	7	59	151	250	66%
Other	518	478	486	357	412	15%
All Distance Learning	1,926	2,021	2,071	2,256	3,047	35%

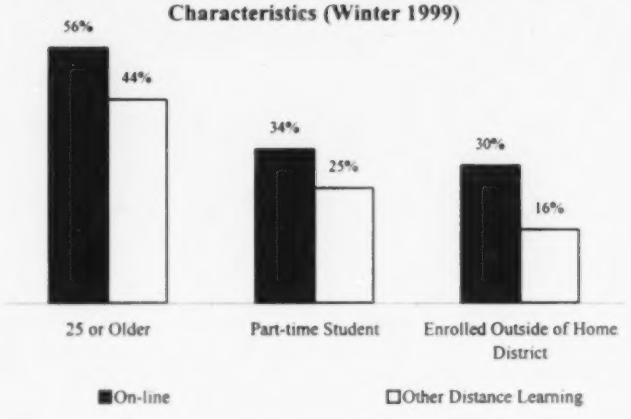
Online: Washington Online, a joint effort by Washington's community and technical colleges to develop and deliver online distance learning, allow students from every part of the state to complete all or part of the requirements for an Associate degree at a distance.

All but two colleges offer online courses to some 6,701 students in 1998-99. Bellevue, Edmonds, Seattle North, Skagit Valley, and Green River are the largest providers (see the Appendix for details by college).

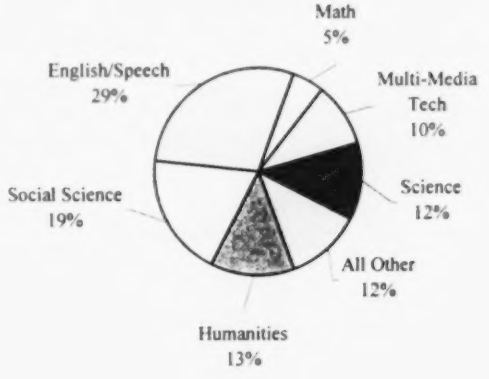
The typical online student is between 26 and 27 years of age, compared to 23 for other distance learning classes. Online students are mostly full-time students, however there are more part-time online students than in other distance learning classes. Online instruction stretches district boundaries more than other form of distance learning with nearly one-third of online students enrolled at a college outside of their home district, compared to 16 percent in other distance learning classes.

Some 30 percent of online students only take online and do not enroll in classes on campus. It is quite likely that these students would not have enrolled had courses not been available with the time and location flexibility of the online format. Roughly one in ten will take two or three online classes at a time. Due to the mix of current offerings, online students take mostly academic courses (78 percent),

On Line vs Other Distance Learning Student Characteristics (Winter 1999)



Online FTE by Subject Area



though more vocational classes are planned for 1999-2000.
Though women still represent the majority of distance learners, men comprise a greater share of online students (47 percent) than any other type of distance learning. There are fewer students of color (15 percent) and fewer with disabilities (4 percent) than in the population of college students as a whole. The equipment needed to enroll and participate online may be a barrier to participation for some students.

Video-based telecourses: Today video-based instruction, whether taped or broadcast comprises the majority of distance learning in Washington's community and technical colleges (53 percent of distance learning FTEs). Thus the characteristics of distance learning students as described earlier also apply to those taking video-based courses. Common video courses include introduction to astronomy, environmental studies, geography, geology, and anthropology. Several colleges offer composition I and II, world history I and II, and first-year Spanish using telecourses. The share of total distance FTEs represented by video-based telecourses is shrinking rapidly as online and interactive video increases.

Interactive video: Though it is the smallest in terms of total FTE, interactive video instruction FTEs is growing rapidly due to the infrastructure of the K-20 network. Offerings more than doubled between 1996 and 1997 and continued to grow rapidly last year. Unlike other distance learning opportunities this technology has attracted students without prior college, including more than a typical level of enrollment from young parents. The types of courses delivered through interactive video include English composition, pre-engineering and fundamentals of algebra.

Correspondence: Most of the "Other" distance learning classes are offered via correspondence. These courses account for approximately 12 percent of distance learning FTE in 1998-99. The students in these courses tend to be like other distance learning students. Typical courses taught using this method include the principles of accounting, English composition, American history I and II, music appreciation, and introductory astronomy, nutrition, oceanography, philosophy, and sociology.

Quality in Distance Learning

Most of the research on distance learning has found no significant differences in the learning outcomes and overall satisfaction between distance learners and campus students (Russell, 1999; Parrott, 1995; Barry, 1995). This lack of difference applies regardless of the class subject, student background, size of class, or type of distance learning. The typical research approach is to compare test scores, class grades, student satisfaction reported on survey instruments for a class taught by the same instructor, with similar students using two or more different formats. Some reviewers argue that the lack of control on the students picking different formats calls into question the validity of these research findings (Institute for Higher Education Policy, 1999).

Some researchers have found a difference in the course completion rates might be higher in traditional sections than in distance learning sections (Searcy, 1993 and Hogan, 1997) Researchers ask if there may be factors built into distance learning courses that impede student course completion.

Some researchers suggest that the more high tech distance learning approaches may provide disproportionate access to students. "Low-income, minority, and underrepresented students are likely to be among those who may not have access to the technology or the technological experience necessary to take advantage of distance education courses (Parrott").

Research by Boeing Employee Training and the community and technical college system on the role and future of distance learning points to the need for students and teachers to recognize that distance learning

requires different skills and presents unique challenges. Compared to conventional classroom students, distance learning students need to more self-motivated and responsible for their own learning. Students need to recognize that distance learning takes as much or more time than traditional classes not less time as many students expect. Both faculty and students need to be patient, knowing that it may take 24 hours for the instructor to respond to a question or receive feedback.

The Boeing research discovered that the instructor role changes in the distance learning setting. Distance learning instructors assume more of a mentor and coach role, encouraging students to rely on each other. Experienced distance learning instructors suggest that faculty need to be willing to try new things and be uncomfortable at times, recognizing they will learn the most about how to teach in a distance learning environment by doing it. Finally, potential teachers need to recognize that they will be teaching without the standard non-verbal cues from students. Some faculty find that lack of immediate feedback difficult.

The Boeing research identified several challenges inherent in distance learning. Instruction that relies on simulations and other critical "hands-on" components are difficult to deliver from a remote location. There's no opportunity to demonstrate proficiency that may be especially critical in medical, mechanical, and assembly courses. Currently, bandwidth technology cannot support too much activity at once, thereby limiting some interactions. In some rural areas there are fewer Internet service providers (ISPs) and telephone service is sometimes inadequate. Finally, there remains a challenge in finding an effective way to ensure that the enrolled student is doing his/her own work.

However, distance learning provides new opportunities that do not exist in the conventional classroom mode. The written and "faceless" interaction draws out shy students who might not participate as much in a classroom environment. The different methods accommodate different learning styles. These opportunities provide access to students who might not be able to get to campus (or get there on a regular basis). This learner-centered instruction encourages student self-sufficiency, self-motivation, problem solving, and responsibility for the student's own learning.

The Future of Distance Learning

Because distance learning meets the needs of the subset of today's degree-seeking students who must enroll part time, faculty and administrators working in the distance learning field predict that distance learning could eventually serve a substantial share of the FTE in Washington community and technical colleges. If the current growth rate continued, that level of service would be achieved in five years. However, few expect future expansion of distance learning to keep pace with the current growth rate. Even as the current growth trends for distance learning moderate, it is still likely that distance learning opportunities will grow more rapidly than on-site enrollments.

A modest growth rate means that 10 percent of all students will be distance learning students in 5 to 10 years and that online students will comprise at least half of all distance learners in 5 years or less.

Projected FTE Growth Pattern for Distance Learning
Fall Quarter

	Actual		Forecasted				
	1997	1998	1999	2000	2001	2002	2003
On-line	257	636	1,590	2,780	3,900	4,680	5,140
Telecourse	1,491	1,710	1,730	1,750	1,780	1,800	1,830
Interactive Video	151	250	260	270	280	280	290
Other	357	415	420	420	440	440	440
Total	2,256	3,011	4,000	5,220	6,400	7,200	7,700

Summary

Distance learning opportunities and enrollments are growing rapidly in Washington's community and technical colleges. The growth represents a third of the overall growth and shows no signs of slowing any time soon. Video-based telecourses currently dominate the mix of distance options. However, fast-growing online courses will likely generate more FTEs than the other forms of distance learning combined by 2002-03.

Though students enrolling in distance learning are similar to other full-time students, there is a new wave of degree-seeking part-time students who might not otherwise be served by colleges. This new wave constitutes about 20 percent of all distance learners. The increased flexibility and the opportunity to participate at times and in places that are convenient to their busy schedules makes distance learning an attractive alternative.

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APPENDIX

Distance Learning FTEs and Students by College

	All Distance Learning Fall 1998		Online FTEs	
	FTEs	Students	Fall 1998	Winter 1999
Bates	22	77	-	-
Bellevue	249	676	76	196
Bellingham	1	8	1	-
Big Bend	40	103	4	9
Centralia	101	293	-	7
Clark	87	336	20	21
Columbia Basin	65	174	34	54
Edmonds	164	457	123	155
Everett	130	326	12	49
Grays Harbor	32	86	23	24
Green River	119	315	45	72
Highline	64	188	9	13
Lake Washington	9	25	8	5
Lower Columbia	63	227	17	14
Olympic	61	158	-	11
Peninsula	30	84	3	10
Pierce	73	202	3	14
Renton	5	15	5	2
Seattle Central	191	443	1	9
Seattle North	113	305	51	83
Seattle South	38	103	16	36
Shoreline	101	294	47	18
Skagit Valley	240	683	25	68
South Puget Sound	50	156	-	-
Spokane	179	402	26	17
Spokane Falls	474	1,064	32	48
Tacoma	52	144	4	4
Walla Walla	71	151	11	32
Wenatchee Valley	33	115	7	14
Whatcom	88	239	25	9
Yakima	64	214	10	23
Total	3,011	8,063	636	1,019

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